

CLAIMS

1. Method for the manufacture of a switching device having a sensor unit (12) located at a measurement end (22) of a casing sleeve (14) and connected to an electronic circuit (18) placed on a support (16) received in casing sleeve (14) and with a connection part (24) located on a rear end (20) of casing sleeve (14), characterized in that the sensor unit (12), support (16) and connection part (24) together with a shielding sleeve (26) surrounding the support (16) for shielding electromagnetic radiation are assembled to form a dimensionally stable module (28), that the module (28) is subsequently inserted into casing sleeve (14) where it is received in fixing manner and that the shielding sleeve (30) is electrically connected to the support (16).
2. Method according to claim 1, characterized in that the module (28) is introduced into casing sleeve (14) from measurement end (22).
3. Method according to claim 1, characterized in that module (28) is introduced into casing sleeve (14) from the rear end (20).
4. Method according to one of the claims 1 to 3, characterized in that module (28) is sealingly inserted into casing sleeve (14).

5. Method according to one of the claims 1 to 4, characterized in that use is made of a cylindrical shielding sleeve (30) and a cylindrical casing sleeve (14).
6. Method according to one of the claims 1 to 5, characterized in that support (16) is constructed as a printed circuit board (32) and is brought into aligned engagement with sensor unit (12) and that circuit board (32) is electrically connected to sensor unit (12).
7. Method according to one of the claims 1 to 6, characterized in that shielding sleeve (26), surrounding support (16) in a clearly defined manner, is brought into engagement with sensor unit (12).
8. Method according to one of the claims 1 to 7, characterized in that shielding sleeve (26) is oriented in a defined coaxial manner to sensor unit (12) and casing sleeve (14).
9. Method according to one of the claims 1 to 8, characterized in that premoulding is performed with respect to module (28) in connection part (24).
10. Method according to one of the claims 1 to 9, characterized in that a connection part (24) with at least one cable departure is used.

11. Method according to one of the claims 1 to 9, characterized in that a connection part (24) with at least one plug departure is used.
12. Method according to one of the claims 1 to 11, characterized in that the connection part (24) is brought into a clearly defined orientation with support (16) on a terminal area of shielding sleeve (30).
13. Method according to one of the claims 1 to 12, # characterized in that connection part (24) is oriented in defined coaxial manner to casing sleeve (14) and shielding sleeve (26).
14. Method according to one of the claims 1 to 13, characterized in that premoulding is carried out with a material which is transparent or semitransparent after curing.
15. Method according to one of the claims 1 to 14, characterized in that the areas between support (16) and shielding sleeve (26) and between shielding sleeve (26) and casing sleeve (14) are moulded.
16. Method according to one of the claims 1 to 14, characterized in that use is made of a connection part (24) with an elongated collar (42), which is engaged over the shielding sleeve (30) and engaged with sensor unit (12).

17. Method according to claim 16,
characterized in
that elongated collar (42) is oriented coaxially to casing
sleeve (14) and shielding sleeve (26).
18. Method according to one of the claims 16 or 17,
characterized in
that the elongated collar (42) with transducer receptacle
(64) forms an underlap and/or a defined stop.
19. Method according to one of the claims 16 to 18,
characterized in
that module (28) is retained with respect to casing sleeve
(13) by moulding and/or extruded thermosetting resins
and/or by means of an adhesive joint.
20. Method according to one of the claims 1 to 19,
characterized in
that before sensor unit (12) is connected to circuit (18)
on printed circuit board (32), it is placed in a cup-like
shielding bush (36).
21. Method according to one of the claims 1 to 20,
characterized
in that contact tabs (38) provided on shielding bush (36)
are soldered to printed circuit board (32).
22. Method according to one of the claims 1 to 21,
characterized in
that moulding takes place through at least one opening
(40) in connection part (24).
23. Module for a switching device for installation in a casing
sleeve,

having a sensor unit (12) with a sensor (13) for detecting a measurement signal,
having an electronic circuit (18) placed on a support (16), which is dimensionally stably connected at a measurement end to the sensor unit (12) and in which circuit (18) is electrically connected to sensor unit (12),
with a shielding sleeve (26) electrically connected to support (16) and surrounding the latter for shielding electromagnetic radiation, which is connected in a dimensionally stable manner to sensor unit (12) and/or support (16) and
with a connection part (24) for the connection of circuit (18) to external equipment placed on support (16) and/or on shielding sleeve (26).

24. Module according to claim 23,
characterized in
that sensor (13) is more particularly constructed as an inductive, optical, capacitive, temperature, pressure and/or gas sensor.
25. Module according to one of the claims 23 or 24,
characterized in
that sensor unit (12) is provided with a shielding bush (36) and/or a unit mechanically centring shielding bush (26).
26. Module according to one of the claims 23 to 25,
characterized in
that support (16) is constructed as a printed circuit board (32).

27. Module according to one of the claims 23 to 26,
characterized in
that connection part (24) has an elongated collar (42),
which engages with sensor unit (12).
28. Module according to one of the claims 23 to 27,
characterized in
that the spaces between support (16) and shielding sleeve
(26) are moulded and/or extruded with insulating material.
29. Module according to one of the claims 23 to 28,
characterized in
that the sensor unit (12) has a transducer receptacle (64)
with an axial arrangement of measuring transducer (13) or
an angular arrangement of measuring transducer (13).
30. Module according to one of the claims 23 to 29,
characterized in
that the end termination (24) for cable variant (46, 48)
and for plug variant (56) are in particular constructed as
replaceable modules.